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10/676,017	10/02/2003	Hung Liang Chou	02734.0517	6440

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EXAMINER

CORDRAY, DENNIS R

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding:

Office Action Summary

Application No.

10/676,017

Applicant(s)

CHOU ET AL.

Examiner

Dennis Cordray

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 119-153, 168-194 and 230-312 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 119-153, 168-194 and 230-312 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 119, 168 and 273 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s); at the time the application was filed, had possession of the claimed invention. The claims recite a basis weight of less than about 35 pounds/ream, which includes limits of less than 10 lbs/ream, a range outside of that originally disclosed. The original Specification recites on p 39, par 130, "Products produced according to the present invention generally have a basis weight of from about 10 to about 60 lbs/ream." According to another embodiment, the products produced according to the present invention have a basis weight of from about 13 to about 40 lbs/ream. Figure 6 compares examples of tissues having basis weights of 15, 19.5 and 29 lbs/ream. Example 29, p 43, par 145 recites wet formed webs having a basis weight of 32 lbs/ream. Thus, nowhere in the Specification as originally filed is a web having a basis weight of less than 10 lbs/ream disclosed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 119-120, 122-128, 130-131, 134-141, 143-153, 168-169, 171-177, 179-180, 183-186, 188-194, 230, 233-234, 236-242, 244-245, 248-255, 257-267, 269-274, 276-282, 284-285, 288-295, 297-307 and 309-312 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al in view of Oku et al (5254399), Edwards et al (5494554) and Rekoske et al (6440267).

Claims 119-120, 134-138, 146, 150-153, 168-169, 183, 191, 230, 233-234, 248-252, 260, 264-267, 269-274, 288-292, 300, 304-307 and 309-312: Schmidt et al discloses a method for making a fluid distribution material, tissue or towel (p 13, lines 20-23) comprising

a. providing an aqueous slurry of fibers including cellulosic wood fibers (p 4, lines 3-15 and p 5, lines 14-15), thermally bondable fibers (p 5, lines 41-42), preferably hydrophilic (p 6, lines 13-14), that can be bi-component or tri-component fibers (p 5, lines 57-58)

b. depositing the fibers simultaneously on a wire and forming the fibers into a nascent web (p 7, lines 1-2)

c. drying the web (p 7, line 2)

d. embossing the web, which can be done with heat, thus embossing and heat treating in the same step (p 6, lines 17-19).

e. heat treating to cure the web at a temperature of from 75 to 175 °C (167 – 347 °F) (p 8, lines 39-44 and p 6, lines 5-7). The drying step is included in the Material

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formation process (p 6, line 48 to p 7, line 25) while a post-formation treatment including heat treating is done after the drying step (p 7, lines 27-32; p 8, lines 38-41).

Claims 122-126, 171-175, 236-240 and 276.280: Schmidt et al discloses that wet and dry strength agents can be added (page 6, lines 22-24, 27-28), including polyamide-epichlorohydrin, urea-formaldehyde, melamine-formaldehyde, polyacrylamide and polyacrylamide-glyoxal resins; starch; C₂-C₈ dialdehydes; glutaraldehyde; and glyoxal (p 4, lines 31-35 and 45-49).

Claims 127-128, 130-131, 176-177, 179-180, 241-242, 244-245, 281-282 and 284-285: Schmidt et al discloses that the web can be wet pressed (page 7, lines 12-13) or subjected to through air drying (page 7, lines 18-19). Schmidt et al also discloses that the fully dried web is creped from a Yankee dryer (page 7, lines 21-22).

Claims 139-141, 184-186, 253-255 and 293-295: Schmidt et al discloses that the bi-component or tri-component thermally bondable fiber can comprise polyethylene, polypropylene or polyesters. Schmidt et al also discloses that a suitable fiber is available under the tradename CELBOND® (p 6, lines 1-2, 14), which is also cited as an appropriate fiber on page 14 of the instant specification. Schmidt et al further discloses that the fibers can be made hydrophilic by applying a surfactant (p 3, lines 51-52).

Claims 143-145, 147-149, 188-190, 192-194, 257-259, 261-263, 297-299 and 301-303: Schmidt et al discloses that the thermally bondable fibers are present in an amount from 0 to 50% with a preferred range of from 5 to 25% (p 5, lines 49-51).

Schmidt et al also discloses that the length of the fibers can be from 0.1 to 6 cm (1 to 60

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mm) and that a preferred range is from 0.3 to 30 cm (3-30 mm) (p 6, lines 15-16). The above composition and length ranges encompass the claimed ranges.

Schmidt et al does not disclose that the method includes a line speed in excess of 1000 ft/min or that the nascent tissue has a basis weight of less than about 35 lb/ream or a formation index of greater than about 42. Schmidt et al also does not disclose a CD wet breaking length or SAT capacity.

Oku et al teaches that a wet-laid former can run at a speed of 500 m/min or more (col 6, lines 66-67).

Edwards et al discloses that good formation in a tissue web enables more uniform debonding during creping, which results in improved softness and reduced linting (Abstract; col 1, lines 61-64). Edwards et al discloses several examples of tissues made at a speed of 3000 ft/min that have basis weights from 15-28 g/m² (9.2 to 17.2 lb/3000 ft²) and a Formation Index range from 120-180 (cols 12-14, Examples 1-5 and Table in Example 5).

Rekoske et al discloses a method for making a soft creped tissue (Abstract). Examples are given of tissues made at a speed of 3000 ft/min that have basis weights of 16.9-17.1 lb/2880 ft² (17.6-17.8 lb/3000 ft²) and Formation Indices of 137-199 (cols 6-8, Examples 1-4). Rekoske et al also discloses numerous examples of commercial tissue products having Formation Indices from 84-147 (Col 10, Table 1).

The art of Schmidt et al, Edwards et al, Rekoske et al and the instant invention are analogous as pertaining to the manufacture of tissue products. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the

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claimed speed to form the web in the process of Schmidt et al in view of Oku et al, Edwards et al and Rekoske et al to maximize the output of the process and as a speed in the range typically used in the art. If further evidence is needed, see Smook, p 239, last full par in right col and p 324, Table 21-1 (Smook, Handbook for pulp and Paper Technologists, 2nd ed, Angus Wilde Publications, 1992). Smook teaches on p 239 that slower papermaking machines can run at up to 400 m/min (1312 ft/min) and on p 324 that the fastest machines can run at up to 6890 ft/min in the production of tissue and towels. It would also have been obvious to obtain the claimed basis weight and Formation Index as typical values for tissue products.

It would have been obvious to obtain the claimed CD wet breaking length and SAT values because, where the claimed and prior art apparatus or product are identical or substantially identical in structure or composition, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). In other words, when the structure recited in the reference is substantially identical to that of the claims, the claimed properties or functions are presumed to be inherent. In the instant case, the claimed composition and method of making are disclosed by or are obvious over Schmidt et al in view of Oku et al, Edwards et al and Rekoske et al, thus the structure would be substantially the same as the claimed structure.

3. Claims 121, 129, 133, 170, 178, 182, 235, 243, 247, 275, 283 and 287 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al in view of

Oku et al, Edwards et al and Rekoske et al as used above and further in view of Anderson et al (WO 96/12615).

Schmidt et al, Oku et al, Edwards et al and Rekoske et al do not disclose that the papermaking fibers and thermally bondable fibers are dispersed sequentially or that the fibers in the web are stratified.

Anderson et al disclose a method of making a wet-laid bonded fibrous web containing bi-component fibers and cellulosic fibers (abstract). Anderson et al discloses that the papermaking and bi-component fibers can be added separately to make a stratified web with a central layer having mostly bi-component fibers and outer layers having mostly cellulosic fibers (p 8, lines 13-20). Anderson also discloses that the stratified web has an abrasion resistant outer layer as well as a high strength and total absorption capability in the core (p 7, lines 3-10 and 19-25).

Edwards also teaches that the use of layering (stratification) to make tissue products is well known in the art to take advantage of different properties that different fibers offer (col 1, lines 10-15).

The art of Schmidt et al, Oku et al, Edwards et al, Rekoske et al, Anderson et al and the instant invention are analogous as they pertain to methods of making wet-laid fibrous webs. It would have been obvious to a person of ordinary skill in the art at the time of the invention to form a stratified web in the tissue of Schmidt et al in view of Oku et al, Edwards et al and Rekoske et al and further in view of Anderson et al to maximize the abrasion resistance, strength and absorption properties of the web.

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4. Claims 132, 181, 246 and 286 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al in view of Oku et al, Edwards et al and Rekoske et al as used above and further in view of Batra et al (6162327).

Schmidt et al, Oku et al, Edwards et al and Rekoske et al do not disclose that the web can be uncreped.

Batra et al disclose a tissue paper produce comprising cellulosic and optionally synthetic fibers (col 2, lines 39-42) that can be made by through air drying (col 2, lines 62-63). Batra et al also discloses that the tissue paper can be creped, uncreped or microcreped (col 2, lines 46-48).

The art of Schmidt et al, Oku et al, Edwards et al, Rekoske et al, Batra et al and the instant invention are analogous as they pertain to methods of making wet-laid fibrous webs. It would have been obvious to a person of ordinary skill in the art at the time of the invention to make an uncreped product in the process of Schmidt et al in view of Oku et al, Edwards et al and Rekoske et al and further in view of Batra et al as a functionally equivalent option.

5. Claims 142, 187, 256 and 296 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al in view of Oku et al, Edwards et al and Rekoske et al as used above and further in view of Nielsen et al (EP 0465203 A1).

Schmidt et al, Oku et al, Edwards et al and Rekoske et al do not disclose that the surfactant is nonionic.

Nielsen et al disclose a method of making a wet-laid bonded fibrous web containing bi-component fibers and cellulosic fibers (abstract). Nielsen et al further

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disclose that a nonionic dispersing agent can be added to modify the surface of the fibers to make them hydrophilic (p 5, lines 42-52).

The art of Schmidt et al, Oku et al, Edwards et al, Rekoske et al, Nielsen et al and the instant invention are analogous as they pertain to methods of making wet-laid fibrous webs. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a nonionic surfactant in the process of Schmidt et al in view of Oku et al, Edwards et al and Rekoske et al and further in view of Nielsen et al to make the fibers hydrophilic.

6. Claims 231-232, 268 and 308 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al in view of Oku et al, Edwards et al and Rekoske et al as used above and further in view of Smook.

Schmidt et al does not disclose the use of slotted screens in the process.

Smook teaches that modern pressure screens used in papermaking systems can use either holes or slots and that slots can serve to more effectively remove small cubical debris (p 111, first 3 pars in left col). Smook also teaches that furnishes can be upgraded by using fine slotted screens within the approach system and that the methodology is commonly used today (p 229, first par in right col).

The art of Schmidt et al, Oku et al, Edwards et al, Rekoske et al, Smook and the instant invention are analogous as they pertain to methods of making wet-laid fibrous webs. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a slotted screen in the process of Schmidt et al in view of Oku et al, Edwards et al and Rekoske et al and further in view of Smook as a common practice.

Response to Arguments

7. Applicant's amendments, filed 4/1/2006, have successfully overcome the rejections of claims 168-169, 171-177, 179-180, 183-186, 188-194 and 230 under 35 U.S.C. 102(b). Therefore, the rejection has been withdrawn. However, due to the amendments, new grounds of rejection are made under 35 U.S.C. 103(a).

With respect to Applicant's arguments, see pp 32-33, that the Schmidt (EP '078) reference is directed to a high basis weight absorbent distribution material, Schmidt et al discloses examples of wicking core webs having a basis weight of 150 g/m^2 , as one embodiment of the invention. Schmidt et al also discloses on p 13, lines 20-23 that the webs do not need to be used as a component of a disposable absorbent product, but can also be used alone as an end-use product such as a tissue or towel (p 13, lines 20-23). While a basis weight of 150 g/m^2 for fluid distribution cores used as a component of an absorbent article when is exemplified, Schmidt et al further discloses that webs having different basis weights can be made and that the post treatment is adjusted to the caliper of the web (p 7, lines 50-53). Also, as detailed in the above rejections, Edwards et al (5494554) and Rekoske et al (6440267) disclose numerous tissues having basis weights in the claimed range. Smook also teaches on p 324, Table 21.1 that tissues and towels have typical basis weights in the range of $7\text{-}27 \text{ g/m}^2$. It would be thus obvious to one of ordinary skill in the art to produce a tissue with the claimed basis weight using the process of Schmidt et al.

Applicant argues on p 34 that Schmidt et al states that the absorbent cores would not be used by themselves, but instead in combination with other structures that may

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provide the desired breaking properties, such as a topsheet, a backsheet and a "fluid pervious sheet...to increase integrity of the fluid member during processing and/or use."

As discussed in the previous paragraph, Schmidt et al discloses the multi-layered absorbent article referenced by Applicant as one embodiment, and further discloses that "In addition to being utilized as a component in disposable articles and products, fluid distribution materials according to the present invention may be utilized alone to comprise an end-use product such as a tissue or towel product..." (p 13, lines 20-23).

With respect to Applicant's arguments, see p 33, that the webs of Schmidt et al could not be formed at a line speed of over 1000 ft/min, Smook discloses in Table 21-1 that it is known to form webs with basis weights of up to 170 g/m² at a line speed of 1146 t/min. In any case, it would have been obvious to one of skill in the art to make tissues having basis weights in the claimed range in view of the disclosures and teachings of Edwards et al, Rekoske et al and Smook. It would also have been obvious to make the tissue webs at speeds greater than 1000 ft/min in view of Edwards et al, Rekoske et al and Table 21-1 in Smook.

With regard to Applicant's arguments, see pp 34-36, concerning SAT capacity, CD wet breaking length, and Formation Index, the parameters were newly added to the amended claims and are discussed in the above rejections.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Cordray whose telephone number is 571-272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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